

REMARKS

Claims 1, 6, 11-16, 21, 24, 28, 36-43 and 45-50 are amended, and claim 44 is canceled; as a result, claims 1-43 and 45-59 are now pending in this application. The following remarks are made in response to the Office Action dated February 11, 2004:

Claim Objection

Claim 16 was objected to because of a reference to “the modulation” has “insufficient antecedent basis.” It is believed that the amendments to claim 16 render this objection moot. Withdrawal of the objection and reconsideration of claim 16 are respectfully requested.

§112 Rejection of the Claims

Claims 37-42 were rejected under 35 USC § 112, second paragraph, as being “indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.” Claims 37-42 were amended to further clarify the recited subject matter. Applicant respectfully requests withdrawal of the rejection, and reconsideration and allowance of the claims.

§102 Rejection of the Claims

Claims 1-2, 5, 6, 7, 11 and 21-22 were rejected under 35 USC § 102(b) as being anticipated by Flanagan et al. (U.S. Patent No. 4,071,695, hereinafter “Flanagan”). Applicant has amended each independent claim and respectfully traverses the rejections as follows:

Claims 1, 2 and 5

Applicant amended claim 1 to remove the speaker recitation and to clarify that the processor is a digital processor which includes an inhibitor as recited to inhibit distortions arising from apparent modulation of the input signal due to sampling of the input signal, as recited by claim 1. Insofar as Flanagan is used in a rejection under 35 USC § 102(b), Applicant respectfully traverses. Applicant notes that the rejection relies on, among other things, Flanagan’s FIG. 3 and 6 and col. 7, lines 50-68 and col. 8, lines 1-36. However, it is noted that the design of FIG. 3 of Flanagan does not inhibit distortions arising from apparent modulation of

the input signal due to sampling of the input signal, as recited by claim 1. As best understood, it appears that Flanagan's FIG. 3 circuit is a digital type automatic signal amplitude equalizer circuit which is modulated and applied to low-pass filters 333 (Flanagan col. 7, line 50 – col. 8, line 45), in contrast to the present subject matter. It is believed that Flanagan's FIG. 3 circuit fails to inhibit distortions arising from apparent modulation, as provided by Applicant's specification, page 5, line 13 to 19. Thus, it is respectfully submitted that the cited portions of Flanagan fail to anticipate the recited subject matter.

Furthermore, it is respectfully submitted that the cited portions of Flanagan do not render the present subject matter obvious, since Flanagan's digital circuit of FIG. 3 teaches away from the present subject matter.

Claims 2 and 5 depend on independent claim 1, and are believed to be patentable for at least the reasons provided with respect to independent claim 1.

Claims 6 and 7

Applicant amended claim 6 to remove text from the preamble, include sampling an input signal, and clarify the smoothing and adjusting recited in claim 6. Applicant is unable to find, among other things, in the cited portions of Flanagan adjusting the gain if the envelope is greater than a threshold, wherein the smoothing inhibits distortions arising from apparent modulation of the input signal produced by sampling the signal, as recited in the claim. Insofar as Flanagan is used in a rejection under 35 USC § 102(b), Applicant respectfully traverses. Applicant notes that the rejection relies on, among other things, Flanagan's FIG. 3 and 6 and col. 7, lines 50-68 and col. 8, lines 1-36 and 45-68, and col. 9, lines 1-30. However, as best understood, it appears that Flanagan's FIG. 3 circuit does not address apparent modulation, in contrast to the present subject matter. As such, it is believed that Flanagan's FIG. 3 circuit fails to inhibit distortions arising from apparent modulation, as provided by Applicant's specification, page 5, line 13 to 19. Thus, it is respectfully submitted that the cited portions of Flanagan fail to anticipate the recited subject matter.

Furthermore, it is respectfully submitted that the cited portions of Flanagan do not render the present subject matter obvious, since Flanagan's digital circuit of FIG. 3 teaches away from the present subject matter.

Claim 7 depends on independent claim 6, and is believed to be patentable for at least the reasons provided with respect to independent claim 6.

Claim 8

Claim 8 is discussed in the rejection but not mentioned in the listing of rejected claims in Paragraph 7 of the rejection. If claim 8 was intended to be rejected under 35 USC § 102(b), Applicant respectfully requests clarification in the next official communication. Insofar as such a rejection is made, Applicant respectfully traverses, since claim 8 depends on claim 7, and is believed to be patentable for at least the reasons provided with respect to claims 6 and 7.

Claim 11

Applicant amended claim 11 to recite a preamble of an apparatus for processing a digital audio signal and to include the digital audio signal in the adjuster and detector as recited in claim 11. Applicant is unable to find, among other things, in the cited portions of Flanagan an apparatus for processing a digital audio signal that includes a detector to form a smooth envelope that is a rectified version of the digital audio signal, wherein the detector presents the smooth envelope to an adjuster and wherein the smooth envelope excludes apparent modulation of the digital audio signal, as recited in the claim.

Reconsideration and allowance of claim 11 are respectfully requested.

Claims 21 and 22

Applicant amended claim 21 to include the input signal in the preamble, to correct antecedent basis of the input signal, to remove “using Hilbert filters” from the detector, to recite an adjuster that adjusts a gain based on the difference, to add a sampler to sample the input signal, and wherein the detector is adapted to reduce apparent modulation arising from sampling of the input signal. Applicant traverses the anticipation rejection based on Flanagan as applied to claim 21. Applicant is unable to find in the cited portions of Flanagan, among other things, apparatus adapted to reduce apparent modulation arising from sampling of the input signal, as recited in claim 21. It is believed that Flanagan does not address apparent modulation and does not provide apparatus as recited in claim 21.

Claim 22 depends on independent claim 21, and is believed to be patentable for at least the reasons provided with respect to independent claim 21.

Reconsideration and allowance of claims 21 and 22 are respectfully requested.

Claim 6

Claim 6 was rejected under 35 USC § 102(b) as being anticipated by Yang (U.S. Patent No. 5,706,357). Applicant amended claim 6 to remove text from the preamble, include sampling an input signal, and clarify the smoothing and adjusting recited in claim 6. Applicant respectfully traverses the rejection. Applicant is unable to find, among other things, in the cited portions of Yang adjusting the gain if the envelope is greater than a threshold, wherein the smoothing inhibits distortions arising from apparent modulation of the input signal produced by sampling the signal, as recited in the claim. Applicant does not find any teaching of apparent modulation in Yang or inhibition of distortions caused thereby.

Reconsideration and allowance of claim 6 over Yang are respectfully requested.

§103 Rejection of the Claims

Claims 4, 9, and 10 were rejected under 35 USC § 103(a) as being unpatentable over Flanagan. Applicant respectfully traverses. Claim 4 depends on independent claim 1 and is believed to be patentable at least for the reasons provided with respect to claim 1. Claims 9 and 10 indirectly depend on independent claim 6 and are believed to be patentable at least for the reasons provided with respect to claim 6. Applicant respectfully requests withdrawal of the rejections and reconsideration and allowance of claims 4, 9 and 10.

Claims 12 and 16 were rejected under 35 USC § 103(a) as being unpatentable over Flanagan in view of what was asserted to be “applicant’s admitted prior art” (hereinafter AAPA). Applicant respectfully traverses the rejection. Claim 12 was amended to recite “apparatus” in the preamble and to delete “having a gain” and replace “the gain” with amplification, as set forth in the amendments. Insofar as the rejection asserts that applicant has admitted the preamplifier recited in claim 12 to be prior art, Applicant respectfully traverses the assertion. Claim 12 depends on independent claim 11, and is believed to be a novel combination and patentable for at least the reasons provided with respect to independent claim 11.

Claim 16 was amended to include “for processing an input signal” in the preamble, to add the recited sampler and to amend the preamplifier and adjuster recitations. Applicant is unable to find in the cited portions of Flanagan or in the asserted AAPA (either alone or in combination),

among other things, a showing or suggestion of a hearing aid including an aduster to adjust the gain of the preamplifier if the smooth envelope is greater than a threshold to reduce distortions due to an apparent modulation arising from sampling of the amplified input signal, as recited in claim 16.

Reconsideration and allowance of claims 12 and 16 are respectfully requested.

Claim 13 was rejected under 35 USC § 103(a) as being unpatentable over Flanagan and the asserted AAPA as applied to claims 12 above, and further in view of Brennan et al. (U.S. Patent No. 6,240,192, hereinafter "Brennan"). Applicant respectfully traverses. The preamble of claim 13 was amended to be consistent with that of claims 11 and 12. Claim 13 depends indirectly on independent claim 11, and is believed to be patentable at least for the reasons provided with respect to independent claim 11. Applicant respectfully requests withdrawal of the rejection, and reconsideration and allowance of claim 13.

Claims 14 and 15 were rejected under 35 USC § 103(a) as being unpatentable over Flanagan, the asserted AAPA and Brennan as applied to claim 13 above, and further in view of Williamson et al. (U.S. Patent No. 5,091,952, hereinafter "Williamson"). Applicant respectfully traverses. The preambles of claims 14 and 15 were amended to be consistent with that of claims 11, 12 and 13. Claims 14 and 15 depend indirectly on independent claim 11, and are believed to be patentable at least for the reasons provided with respect to independent claim 11. Applicant respectfully requests withdrawal of the rejections, and reconsideration and allowance of claims 14 and 15.

Claim 17 was rejected under 35 USC § 103(a) as being unpatentable over Flanagan and the asserted AAPA as applied to claim 16 above, and further in view of Williamson. Applicant respectfully traverses. Claim 17 depends on independent claim 16, and is believed to be patentable at least for the reasons provided with respect to independent claim 16. Applicant respectfully requests withdrawal of the rejection, and reconsideration and allowance of claim 17.

Claims 18-20 were rejected under 35 USC § 103(a) as being unpatentable over Flanagan, the asserted AAPA and Williamson as applied to claim 17 above, and further in view of Orban (U.S. Patent No. 4,495,643, hereinafter "Orban"). Applicant respectfully traverses. Claims 18-20 depend indirectly on independent claim 16, and are believed to be patentable at least for the reasons provided with respect to independent claim 16. Applicant respectfully requests withdrawal of the rejection, and reconsideration and allowance of claims 18-20.

Claim 23 was rejected under 35 USC § 103(a) as being unpatentable over Flanagan in view of Orban. Applicant respectfully traverses. Claim 23 depends indirectly on independent claim 21, and is believed to be patentable at least for the reasons provided with respect to independent claim 21. Applicant respectfully requests withdrawal of the rejection, and reconsideration and allowance of claim 21.

Claims 24-27 were rejected under 35 USC § 103(a) as being unpatentable over Flanagan and Orban as applied to claim 23 above, and further in view of In re Harza (274 F.2d, 124 USPQ 378 (CCPA 1960)). Applicant respectfully traverses. Claim 24 was amended to recite first and second filters in a Hilbert filter arrangement. Claims 24-27 depend indirectly on independent claim 21, and are believed to be patentable at least for the reasons provided with respect to independent claim 21. Applicant respectfully requests withdrawal of the rejection, and reconsideration and allowance of claims 24-27.

Claims 3, 28, and 36 were rejected under 35 USC § 103(a) as being unpatentable over Flanagan in view of Ludvigsen (U.S. Patent No. 6,628,795, hereinafter "Ludvigsen"). Applicant respectfully traverses. Claim 3 depends on independent claim 1, and is believed to be patentable at least for the reasons provided with respect to independent claim 1.

Claim 28 was amended to recite a gain control operating on an input signal, to include a sampler for sampling the input signal, to amend the detector recitation to state a detector to detect an envelope of an input signal using a Hilbert filter arrangement, to correct a typographical error in the adjuster recitation, and to include wherein the detector is adapted to reduce apparent modulation arising from sampling of the input signal, with the adder and

adjuster as previously recited in claim 28. Applicant respectfully traverses the rejection. Applicant respectfully submits that the cited references alone or in combination fail to provide, among other things, the adjuster and wherein the detector is adapted to reduce apparent modulation arising from sampling of the input signal, as recited in claim 28.

Claim 36 was amended to recite a gain control operating on an input signal, a filter to block low frequencies of the input signal, a sampler to sample the input signal, a detector to detect an envelope of the sampled input signal using a Hilbert filter arrangement, to correct a typographical error in the adjuster recitation, and wherein the detector is adapted to reduce the apparent modulation arising from sampling of the input signal. Applicant respectfully traverses the rejection of claim 36. Applicant is unable to find in the cited portions of Flanagan and Lidvigsen, either alone or in combination, among other things, a showing or suggestion of a gain control comprising an adjuster and wherein the detector is adapted to reduce the apparent modulation arising from sampling of the input signal, as recited in claim 36.

Applicant respectfully requests withdrawal of the rejection, and reconsideration and allowance of claims 3, 28 and 36.

Claims 43-44 were rejected under 35 USC § 103(a) as being unpatentable over Flanagan and Ludvigsen, and further in view of Klippel (U.S. Patent No. 5,528,695, hereinafter "Klippel"). Claims 44 was canceled without prejudice or disclaimer. Claim 43 was amended to recite a gain control for processing an input signal, a sampler to sample the input signal, a detector to detect an envelope of the sampled input signal using IIR filters in a Hilbert filter configuration, to correct a typographical error in the adjuster recitation, and wherein the detector is adapted to reduce apparent modulation arising from sampling of the input signal, as well as the adder and adjuster as recited in claim 43. Applicant respectfully traverses the rejection of claim 43. Applicant is unable to find in the cited references, among other things, the recited adjuster and wherein the detector is adapted to reduce apparent modulation arising from sampling of the input signal, as recited in claim 43. Reconsideration and allowance of claim 43 are respectfully requested.

Claim 45 was rejected under 35 USC § 103(a) as being unpatentable over Flanagan, Ludvigsen, Klippel, and further in view of Akiho et al. (U.S. Patent No. 5,524,057). Claim 45 was amended to depend on claim 43 and to reference the IIR filter of claim 43. Applicant believes that claim 45 is allowable for at least the same reasons provided for claim 43. Reconsideration and allowance of claim 43 are respectfully requested.

Claim 50 was rejected under 35 USC § 103(a) as being unpatentable over Flanagan in view of Orban. Applicant respectfully traverses. Claim 50 was amended to include forming an envelope that lacks apparent modulation using at least one Hilbert filter, with the blocking and subtracting as recited in claim 50. Applicant respectfully traverses the rejection of claim 50. It is respectfully submitted that none of the cited references teach or suggest alone or in combination, among other things, forming an envelope that lacks apparent modulation using at least one Hilbert filter as recited in claim 50. Applicant respectfully requests withdrawal of the rejection, and reconsideration and allowance of claim 50.

Claims 51-52 were also rejected using Flanagan and Orban, however, the rejections are traversed for at least the reasons provided above for claim 50 from which they depend.

Reconsideration and allowance of claims 50-52 are respectfully requested.

Allowable Subject Matter

Claims 29-35, 46-49, and 53-59 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant respectfully submits that the claims are patentable as relying on patentable base claims.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6912 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

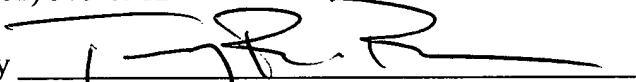
Respectfully submitted,

JON S. KINDRED ET AL.

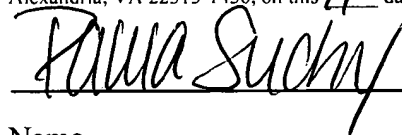
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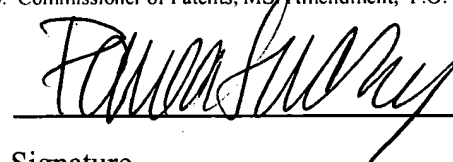
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